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Talking Wrist Type Blood Pressure Monitor Model: BPW810

User Manual

EN

TALKING WRIST TYPE BLOOD PRESSURE MONITOR

Model: BPW810

USER MANUAL

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INTRODUCTION

Thank you for selecting the Oregon Scientific™ Talking Wrist Type Blood Pressure Monitor (BPW810). The BPW810 features voice announcement and playback of blood pressure measurements for added convenience and has been designed to provide you with many years of reliable service. The unit can help you measure and track the following metrics:

- Systolic pressure
- Diastolic pressure
- Mean arterial pressure
- Pulse rate
- Historic record of up to 60 measurements per user (maximum 2 users)

Readings taken by the BPW810 are equivalent to those obtained by a trained observer using the cuff and stethoscope auscultation method, within the limits prescribed by "EN1060-3 Non-invasive Sphygmomanometers-Part 3: Supplementary requirements for electro-mechanical blood pressure measuring systems." The monitor's accuracy in measuring diastolic pressure was tested using the fifth Korotkoff sound method.

This manual contains important safety and care information, and provides step-by-step instructions for using the product.

Read the manual thoroughly before using the product.

KEY FEATURES

FRONT VIEW

1. TALK / VOLUME button
2. LCD
3. ⏻ ON / OFF button
4. Speaker
5. 🧍/▲ USER 1 / UP ARROW button
6. 🧍/▼ USER 2 / DOWN ARROW button
7. SET button

REAR VIEW

1. Wrist cuff
2. Battery compartment

LCD SYMBOLS

SYMBOL	DESCRIPTION	EXPLANATION
SYS	Systolic pressure	The highest blood pressure measured
DIA	Diastolic pressure	The lowest blood pressure measured
8888	Time (hour: minutes)	Current time
MAP	Mean arterial pressure	Average blood pressure measured (see "What is Mean Arterial Pressure (MAP)?" for more information)
Pul / min	Pulse	Pulse rate per minute
	User	Shows which user profile (1 or 2 is being displayed)
MEM 88	Memory	If "MEM" shows, the displayed measurement value is from the memory and not necessarily from the last reading

SYMBOL	DESCRIPTION	EXPLANATION
	Weak battery	Batteries are low and need to be replaced
	Inflating	Unit is inflating with air to obtain the needed level of pressure
	Deflating	Wrist cuff air is exhausting or deflating
mmHg	Millimeter(s) of mercury	Measurement unit for blood pressure
kPa	Kilopascal	Measurement unit for blood pressure
	Voice activation	Voice announcing your blood pressure measured

SAFETY AND CARE INSTRUCTIONS

SAFETY PRECAUTIONS

Please observe the following safety precautions when setting up and using your blood pressure monitor.

- This device is intended for adult use only.
- This device is intended for non-invasive measuring and monitoring of arterial blood pressure. It is not intended for use on extremities other than the wrist or for functions other than obtaining a blood pressure measurement.
- Do not confuse self-monitoring with self-diagnosis. This unit allows you to monitor your blood pressure. Do not begin or end medical treatment based solely on the measurements of this device. Consult a physician for treatment advice.
- If you are taking medication, consult your physician to determine the most appropriate time to measure your blood pressure. Never change a prescribed medication without consulting your physician.
- This unit is not suitable for continuous monitoring during medical emergencies or operations.
- If the cuff pressure exceeds 40 kPa (300 mmHg), the unit will automatically deflate. Should the cuff not deflate when pressures exceeds 40 kPa (300mmHg), detach the cuff from the wrist and press the ⏻ button to stop inflation.
- To avoid measurement errors, carefully read this manual before using the product.

CARING FOR YOUR BLOOD PRESSURE MONITOR

To ensure you receive the maximum benefit from using this product, please observe the following care guidelines.

- When not in use, store the unit in a dry place away from direct sunlight.
- Do not immerse the unit in water. If it comes in contact with water, dry it immediately with a soft lint-free cloth.
- Use a soft, slightly moistened cloth to wipe off the unit and cuff. Do not use abrasive or corrosive cleaning agents, as these may cause damage.
- Remove the batteries whenever you are planning to store the unit for a long period of time.
- When replacing batteries, use new batteries as specified in this user manual. Do not mix new and old batteries.
- Do not place objects such as stickers on the wrist cuff or unit, as these may impair the measurement.
- Do not subject the unit to excessive force, shock, dust, temperature changes, or humidity. Such treatment may result in malfunction, a shorter electronic life span, damaged batteries, or distorted parts.
- Do not tamper with the internal components. Doing so will terminate the product warranty and may cause damage.
- The unit contains no user- serviceable parts.
- If you no longer need to use this product, protect the environment by bringing it to your dealer or designated collection point for proper disposal.

ABOUT BLOOD PRESSURE

What is blood pressure?

Blood pressure is the force generated by the blood against the walls of arteries during cardiac contraction and relaxation

(e.g., the pumping action of the heart).

What are systolic pressure and diastolic pressure?

When ventricles contract and pump blood out of the heart, blood pressure reaches its maximum value. This highest pressure in the cycle is known as systolic pressure. When the heart relaxes between heartbeats, the lowest blood pressure is diastolic pressure.

What is mean arterial pressure (MAP)?

The mean arterial pressure (MAP) is the average pressure that forces blood through the arteries. It is not the average of the systolic and diastolic blood pressure; rather, MAP corresponds to a state of balance between the compressive and expansive forces acting on the arterial wall when there is no distension outward or inward. MAP is an excellent way to evaluate the stress on the walls of your blood vessels, and can be used to evaluate excessive load on the cardiovascular system. Show your MAP history to your doctor to provide additional information that may help him or her understand your situation.

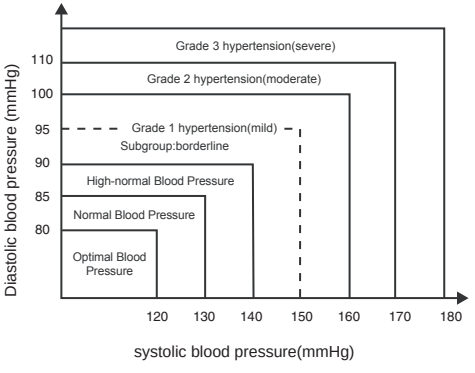
Why measure your blood pressure?

Blood pressure measurement can highly reflect one's health condition. High blood pressure is potentially linked to serious illnesses such as stroke, heart disease and kidney failure.

Since there is no symptom most of the time, many hypertensive people do not realize they are at risk until their health is seriously threatened.

What is the standard blood pressure classification?

Figure 3 illustrates the blood pressure classification mode by World Health Organizatio (WHO) and International Society of Hypertension(ISH) in 1999.



Reference material: 1999 World Health Organization-International Society of Hypertension Guidelines for the management of hypertension, Journal of Hypertension, 1999, 17(2): 151-183.

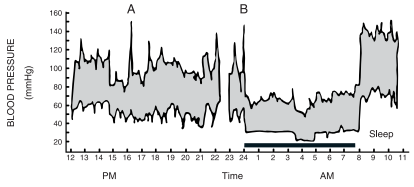
NOTE

- Blood pressure is considered high when either the diastolic or systolic blood pressure value exceeds the normal range. When a patient's systolic and diastolic blood pressures fall into different categories, the higher category should apply.
- Only a physician can tell you your normal blood pressure range and the point at which you are at risk. Consult your physician to obtain these values. If the measurements taken with these products fall outside the range, consult your physician.

Why does my blood pressure fluctuate throughout the day?

Individual blood pressure varies greatly both on a daily and a seasonal or temperature basis. These variations may be more pronounced in hypertensive patients. Normally the blood pressure rises while at work and is at its lowest during sleep.

The graph below illustrates the variations over a single day with measurement taken every 5 minutes. The thick line represents sleep time. The rises in blood pressure at 4PM (A in the graph) and 12AM (B in the graph) correspond to an attack of pain and sexual intercourse (Beven, Honour & Stott, Clin. Sci. 36:329, 1969).



HOW THE BLOOD PRESSURE MONITOR WORKS

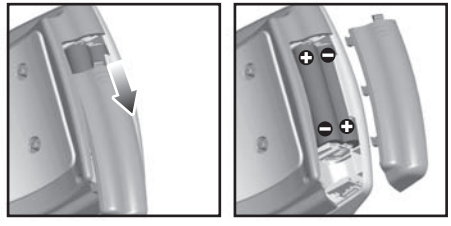
This product uses the Oscillometric Measuring method to detect your blood pressure. Before every measurement, the unit establishes a "zero pressure" equivalent to the air pressure.

Then it starts inflating the wrist cuff to 180mmHg or higher until it senses that it has blocked your blood in the artery. After that, the deflation process starts, during which time the unit detects pressure oscillations generated by beat-to-beat pulsatile, which is used to determine the systolic, mean and diastolic pressure, and also your pulse rate. Any motion during this period will result in an incorrect measurement. After all readings are determined and displayed on the LCD, the measurement is finished and the wrist cuff automatically deflates.

GETTING STARTED

INSTALLING AND REPLACING THE BATTERIES

1. Slide off the battery cover.
2. Install the batteries by matching the correct polarity, as shown below. Always use the correct battery type (2 alkaline LR03 AAA-size).
3. Replace the cover.



NOTE Replace the batteries whenever the weak battery mark shows, the display is dim, or the display does not illuminate when the power is on. Replace all the batteries at the same time - it is dangerous to mix old and new batteries.

Contact your local waste disposal authority for instructions on how to dispose of used batteries. Used batteries can be harmful to the environment, and should not be thrown out with household trash.

SETTING DATE, TIME AND MEASUREMENT UNITS

It is important to set the clock before using your blood pressure monitor, so that a time stamp can be assigned to each record that is stored in the memory.

1. When the unit is off, press and hold **SET** for 2 seconds to enter the setting mode.

2. The setting order is as follows: 12/24 hour format, hour, minute, year, month/day or day / month format, month, date, and measurement unit (kPa or mmHg).
3. Press ▲/▲or ▼/▼ to increase / decrease a value or change the setting.
4. Press **SET** to accept the change and switch to the next setting.
5. When you are finished, press ⏻ to exit the setup menu.

POSITIONING THE WRIST CUFF

It is important to properly position the wrist cuff to ensure that you receive an accurate reading.

1. Remove all accessories (watch, bracelet, etc.) from your left wrist. If your physician has diagnosed you with poor circulation in your left arm, use your right wrist.
2. Roll or push up your sleeve to expose the skin.
3. Apply the cuff to your left wrist with your palm facing up.
4. Position the edge of the cuff about 0.4 inches (1cm) from the bottom of your palm.
5. Fasten the wrist cuff around your wrist, leaving no extra room between the cuff and your skin. If the cuff is too loose, the measurement will not be accurate.

NOTE Graphics may not exactly match product.

VOICE PLAYBACK OF BLOOD PRESSURE MEASUREMENTS

The BPW810 features voice playback during and after blood pressure measurement results, as well as general instructions to help you prepare for taking measurements. When the unit has finished taking your measurement, your blood pressure readings, pulse and blood pressure classification are announced.

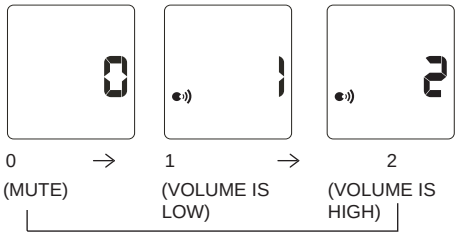
If you want to repeat the announcement, simply press **TALK / VOLUME**.

Anytime you recall a measurement record from memory, it will also be announced. Press **TALK / VOLUME** if you need to repeat the playback of any record.

VOLUME CONTROL

To adjust the volume level:

1. Press and hold **TALK / VOLUME** until volume level flashes on the LCD.
2. Press **TALK / VOLUME** to adjust volume level.



3. Press ⏻ when you have finished adjusting the volume.

NOTE When volume level 0 is selected, the unit is on mute and you will not hear any voice messages announced.

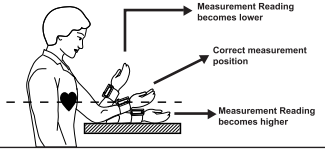
TAKING A BLOOD PRESSURE MEASUREMENT

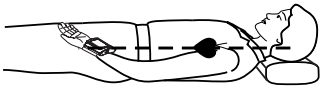
You can choose to take your blood pressure while sitting or lying down. Below are some helpful tips for taking a measurement:

- Be sure to set the clock before taking your first measurement, or whenever you replace the batteries, so that the date and time are stored in the memory with your history. For instructions, refer to p. 6.
- It is important to relax when taking your blood pressure. Try to take a 15-minute rest before you begin.
- Do not lean backward or bend your wrist inward while taking a measurement.
- Avoid talking or moving your fingers and hand while taking a measurement. Rapid movements or other activities may alter your reading.
- Wait at least an hour before taking your blood pressure if you have just eaten a large meal.
- Do not smoke or drink alcohol before taking your blood pressure.
- Do not measure your blood pressure if you are under stress.
- Wait at least 3 minutes between measurements. This allows your blood circulation to recover.
- For a meaningful comparison, try to measure under similar conditions. For example, take daily measurements at approximately the same time, on the same wrist, or as directed by a physician.
- To stop the measurement process at any time, press ⏻
- The unit automatically switches off 1 minute after taking a measurement. To save the battery life, press ⏻ as soon as you are finished to turn off the unit.

To take a measurement:

1. Choose the position you from which you wish to measure - sitting or lying down.
2. Position your body so that your wrist is parallel with your heart, using the chart and illustrations below as a guide.

IF YOU ARE...	THEN...
Sitting down with an armrest	Place your elbow on a table, using an object as a support under your forearm. Your wrist should be parallel with your heart with the palm facing up. 
Sitting down with no armrest	Place your arm across your chest with the wrist parallel to your heart. Hold your elbow with the other hand.

Lying down	Position your wrist on a support, cushion, or your thigh so that it is parallel with your heart with the palm facing up. 

3. Relax your hand and press ⏻ to turn on the unit. A voice message will remind you to relax and remain still. Press ⏻ again and it then begins inflating the wrist cuff. Once the pressure reaches 180 mmHg, it will slowly deflate until the measurement results show on the LCD.

NOTE This unit can intelligently adjust the cuff pressure and inflate to a higher-pressure level (>180 mmHg) when needed.

Your systolic and diastolic pressure readings flash on the LCD, followed by MAP and pulse per minute readings every 2 seconds. At the same time, your measurement results and the blood pressure classification will also be announced.

4. To repeat the announcement, simply press **TALK / VOLUME**.
5. If you want to save the record to memory, press 👤/▲ or 👤/▼ and the results will be saved to User 1's or User 2's memory accordingly.

The measurement is stored as the first (MEM 1) entry in the user record you selected; the last entry (MEM 60) is dropped, and all the entries in between move up 1 digit (e.g. 58 becomes 59, and so on).

RECALLING MEASUREMENTS STORED IN MEMORY

To view a history of User 1's records, press 👤/▲.

To view a history of User 2's records, press 👤/▼.

NOTE

- The most recent record (1) is shown first. Each new measurement is assigned to the first (1) record. All other records are pushed back one digit (e.g., 2 becomes 3, and so on), and the last record (60) is dropped from the list.
- Press the corresponding user button again (1/▲ or 2/▼) to see additional records.
- Press and hold the corresponding user button to auto-advance to additional records.
- The date and time of measurement are shown with each record.
- Memory records will be kept even when the batteries become exhausted and are replaced.

DELETING A MEASUREMENT RECORD FROM MEMORY

You have the option of deleting your latest measurement record or entire measurement history. This is useful if measurements have not been accurately recorded and need to be recorded again.

DELETING THE LATEST RECORD

1. Press 1/▲ or 2/▼ to recall the latest measurement record for User 1 or User 2.
2. Press and hold **SET** until the LCD shows "dEL ONE".

3. Press and hold **SET** for 2 seconds to delete the latest recorded measurement for User 1 or User 2. After you have confirmed deleting the latest record, the screen shows dEL dONE.

4. If you decide to abort the delete action instead, press 1/▲ twice, ⏻ or press 2/▼ once to go back to the main screen.

DELETING ALL RECORDS

1. Press /▲ or /▼ to recall the latest measurement record for User 1 or User 2.
2. Press and hold **SET** until the LCD shows "dEL ONE".
3. Press /▼ to show the option of deleting your entire measurement history; the LCD displays "DEL ALL".

4. Press and hold **SET** for 2 seconds to delete all measurement records. After you have confirmed deleting all records, the screen shows dEL dONe.
5. If you decide to abort the delete action instead, press /▲ twice, ⏻ or press /▼ once to go back to the main screen.

TROUBLESHOOTING

This section includes a list of error messages and frequently asked questions for problems you may encounter with your blood pressure monitor. If the product is not operating as you think it should, check here before arranging for servicing.

Problem	Symptom	Check This	Remedy
No power	Display is dim or will not light up	Batteries are exhausted	Replace with new batteries
		Batteries are inserted incorrectly	Insert the batteries correctly
Low batteries	shows on the display	Batteries are low	Replace with new batteries

Problem	Symptom	Check This	Remedy
Error message	Err shows on the display.	A measure-ment error occurred	Relax for a moment and then measure again
	Err 1, 2, or 3 shows on the display	The wrist cuff is not secure	Refasten the cuff and then measure again
	Err 4 shows on the display	The monitor detected motion while measuring	Movement can affect the measurement. Relax for a moment and then measure again
	Err 5 shows on the display	Pressure is over 37.3 kPa (280 mmHg)	Relax for a moment and then measure again
	Err 6 shows on the display	Deflation period was too long	Movement can affect the measurement. Relax for a moment and then measure again

Problem	Symptom	Check This	Remedy
Error message	EExx shows on the display	A calibration error occurred	Retake the measurement. If the problem persists, contact the retailer or our customer service department for further assistance. Refer to the warranty for contact information and return instructions
Settings are wrong	Date and time are incorrect	The clock was not set or reset after installing new batteries	Reset the clock
	Measure-ment unit (kPa or mmHg) are incorrect	The measurement unit was not set or reset after installing new batteries	Reset the measurement unit

Problem	Symptom	Check This	Remedy
No user memory	Cannot find a record	The memory was not saved after taking a measurement	Retake the measurement. Press ▲ or ▼ to save the corresponding user's memory
		The record was stored to the wrong user memory	Press ▲ to view User 1's record. Press ▼ to view User 2's record

TECHNICAL SPECIFICATIONS

Application:	
Measuring method	Oscillometric / non-invasive
Application	For adult use only
Measurement location	Wrist section of lower arm
Memory	Maximum 60 records per user
Maximum number of users	2
Dimensions:	
Height x Width x Depth	3.5 x 3.4 x 1.2 inches (90 x 86 x 30.8 mm)
Weight	6.3 oz (180g) without batteries
Cuff circumference	5.3 to 7.7 inches (13.5 to 19.5 cm)
Measuring range:	
Pressure	30 to 280 mmHg (4.0 to 37.3 kPa)
Pulse	40 to 200 pulse/min
Accuracy:	
Pressure	+/- 3 mmHg (+/- 0.4 kPa)
Pulse	+/- 5%
Power:	
Power supply	3V DC, 2 LR03 / AAA / UM4-size 1.5V batteries
Power save	Auto power off after 1 minute of non-activity
Operating environment:	
Operation	50°F to 104°F (10°C to 40°C)
Storage / Transport	-4°F to 140°F (-20°C to 60°C)
Humidity range	10% to 83% relative humidity

INFORMATION ABOUT THE CE MARK

This device complies with the European regulations based on the Medical Products Code, and bears the CE mark "CE0120". The device has been quality inspected according to EU guideline 93/42/EEC and tested in compliance to the "EN1060-1 Non-invasive sphygmomanometers - Part 1, General requirements" and "EN1060-3 Non-invasive sphygmomanometers-Part3: Supplementary requirements for electromechanical blood pressure measuring systems". The CE mark further indicates that this blood pressure monitor meets the general requirements for electronic products as regards to resistance to electromagnetic interference. Malfunctioning may however occur in the proximity of extremely strong electromagnetic fields. In accordance with the "Ordinance for Operators of Medical Products", a technical inspection must be carried out if this device is used for industrial or commercial purposes.

BLOOD PRESSURE LOG BOOK

To create a log of your blood pressure history, complete the personal information section at the top, then enter the details (date, time, and measurements) for each reading you take.

To plot your history, use an S (systolic), D (diastolic) and M (mean arterial pressure) to mark the points where each measurement falls on the chart, then connect the points to view your history over time.

Name: _____ Age: _____ Weight: _____ (kg/lbs)																
Date		**10** OCT	**17** OCT													
Time		10PM	10PM													
SYS **DIS** **MAP**		**158** **90** **110**	**155** **95** **112**													
Pul / min ❤		85	90													
kPa	**mmHg**															
29.3	220															
26.7	200															
24.0	180															
21.3	160	**S**	**S**													
18.7	140															
16.0	120															
13.3	100	**M**	**M**													
10.7	80	**O**	**O**													
8.0	60															